

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims

Claim 1 (previously presented): A device for correcting visual defects of an eye comprising:
a coherent light source,
a beam modification device configured to shape and deflect a beam of the coherent light source for processing an optical element;
a wavefront analyzer device for analyzing a wavefront of an optical path in the eye, and
a topography analyzer unit for analyzing the surface of the eye.

Claim 2 (cancelled)

Claim 3 (previously presented): The device as recited in claim 1, further comprising a control unit for at least one of processing signals of the wavefront analyzer unit; processing signals of the topography analyzer unit; for controlling the coherent light source; and for controlling the beam modification device.

Claim 4 (previously presented): The device as recited in claim 1, wherein the optical element includes at least one of an intraocular lens; an eye lens; the cornea of the eye; a contact lens; an implantable contact lens (ICL); and a spectacle lens.

Claim 5 (previously presented): The device as recited in claim 1, wherein the coherent light source is a laser.

Claim 6 (previously presented): The device as recited in claim 3, wherein the control unit is designed in such a manner that the analysis of the optical path in the eye and/or the analysis of

the surface of the eye can be carried out virtually simultaneously with a processing of the optical element via the beam of the coherent light source.

Claim 7 (previously presented): A method for correcting visual defects of an eye comprising:
determining an optical path of the eye via a wavefront analysis;
analyzing a topography of the eye; and
calculating and using a beam modification device to process an ideal optical system
which would result in a correction of the visual defects of the eye.

Claim 8 (cancelled)

Claim 9 (previously presented): The method as recited in claim 7, wherein the ideal optical system is provided as a function of data obtained from at least one of the wavefront analysis and the topography analysis.

Claim 10 (previously presented): The method as recited in claim 7, further comprising calculating shot positions for manufacturing the ideal optical system as a function of data obtained from at least one of the wavefront analysis and the topography analysis.

Claim 11 (previously presented): The method as recited in claim 7 further comprising reshaping the old optical system of the eye into the calculated ideal optical system.

Claim 12 (previously presented): The method as recited in claim 7, wherein the optical system includes at least one of the eye lens; an intraocular lens; the cornea of the eye; a contact lens; an ICL; and at least one spectacle lens.

Claim 13 (previously presented): An ideal optical system manufactured according to the method of claim 7 wherein the optical system includes elements made of materials which are suitable for at least one of implantation; adhesion; and ablation.

Claim 14 (previously presented): The ideal optical system as recited in claim 13 wherein the optical system includes elements having refractive and/or diffractive structures.

Claim 15 (cancelled)

Claim 16 (previously presented): The method as recited in claim 7 further including completely correcting a visual defect of an eye.

Claim 17 (previously presented): The device as recited in claim 5 wherein the laser is a spot scanning excimer laser.

Claim 18 (previously presented): The system as recited in claim 13 wherein the materials are plastic or glass.

Claim 19 (previously presented): An ideal optical system manufactured using one of the devices according to claim 1 wherein the optical system includes elements made of materials which are suitable for at least one of implantation; adhesion; and ablation.

Claim 20 (previously presented): The system as recited in claim 19 wherein the materials are plastic or glass.

Claim 21 (previously presented): A device for correcting visual defects of an eye comprising:
a light source,
a beam modification device configured to shape and deflect a beam of the light source for processing at least one of an intraocular lens and an implantable contact lens;
a topography analyzer unit for analyzing the surface of the eye; and
a wavefront analyzer device for analyzing a wavefront of an optical path in the eye.

Claim 22 (cancelled)

Claim 23 (previously presented): A method for correcting visual defects of an eye comprising:

determining an optical path of the eye via a wavefront analysis;
analyzing a topography of the eye;
calculating an ideal optical system which would result in a correction of the visual defects of the eye; and
processing at least one of an intraocular lens and an implantable contact lens using a beam modification device so as to correct the visual defect.

Claim 24 (cancelled)

Claim 25 (previously presented): The device as recited in claim 21, further comprising a control unit for at least one of processing signals of the wavefront analyzer unit; processing signals of the topography analyzer unit; for controlling the coherent light source; and for controlling the beam modification device.

Claim 26 (previously presented): The device as recited in claim 25, wherein the control unit is configured such that a processing of the optical element via the beam of the coherent light source can be carried out virtually simultaneously with at least one of an analysis of the optical path in the eye and an analysis of the surface of the eye.

Claim 27 (previously presented): The method as recited in claim 23, wherein the processing is performed virtually simultaneously with at least one of the determining of the optical path of the eye and the analyzing of the topography of the eye.

Claim 28 (new): A device for correcting visual defects of an eye comprising:

a coherent light source,
a beam modification device configured to shape and deflect a beam of the coherent light source for processing an optical element;
a wavefront analyzer device emitting signals corresponding to a wavefront of an optical path in the eye, and

a control unit processing the signals from the wavefront analyzer so as to analyze the wavefront, and simultaneously controlling at least one of the beam modification device and the coherent light source so as to process the optical element.

Claim 29 (new): The device as recited in claim 28, further comprising a topography analyzer unit for processing second signals corresponding to the surface of the eye, and wherein the control unit processes the second signals.

Claim 30 (new): The device as recited in claim 28, wherein the optical element includes at least one of an intraocular lens; an eye lens; the cornea of the eye; a contact lens; an implantable contact lens (ICL); and a spectacle lens.

Claim 31 (new): The device as recited in claim 28, wherein the coherent light source is a laser.

Claim 32 (new): A method for correcting visual defects of an eye comprising:

- determining an optical path of the eye via a wavefront analysis;
- calculating an ideal optical system which would result in a correction of the visual defects of the eye; and
- simultaneously processing an optical element using a beam modification device.

Claim 33 (new): The method as recited in claim 32, further comprising analyzing a topography of the eye simultaneously with the processing.

Claim 34 (new): The method as recited in claim 32, wherein the ideal optical system is provided as a function of data obtained from at least one of the wavefront analysis and the topography analysis.

Claim 35 (new): The method as recited in claim 32, further comprising calculating shot positions for manufacturing the ideal optical system as a function of data obtained from at least one of the wavefront analysis and the topography analysis.

Claim 36 (new): The method as recited in claim 32 further comprising reshaping the old optical system of the eye into the calculated ideal optical system.

Claim 37 (new): The method as recited in claim 32, wherein the optical system includes at least one of the eye lens; an intraocular lens; the cornea of the eye; a contact lens; an ICL; and at least one spectacle lens.